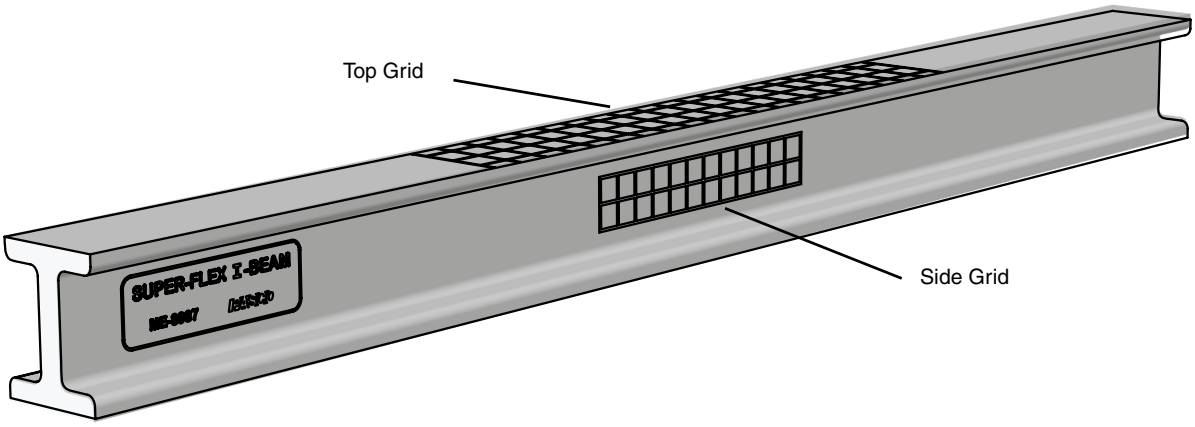
Super-Flex I-Beam

ME-8987



Included Equipment	Part Number
Super-Flex I-Beam	ME-8987

Introduction

The model ME-8987 Super-Flex I-Beam illustrates beam stiffness and deflection. Because it flexes more than a metal or wooden beam, students can easily observe that its vertical stiffness is greater than its horizontal stiffness. Use the Super-Flex I-Beam to qualitatively demonstrate how a beam bends under various load and support configurations.

Grids on the top and one side of the I-beam show the amount of deflection in a qualitative way. The grid on top is approximately 25.4 cm (10 in) long and 3.8 cm (1.5 in) wide with 1.2 cm by 1.2 cm (0.5 in by 0.5 in) squares. The grid on the side is approximately 12 cm long and 2 cm wide with 1 cm by 1 cm squares.

Demonstrations

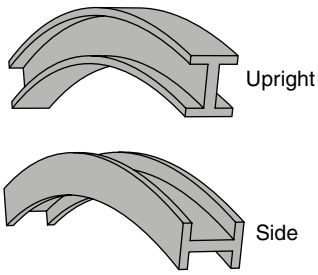


Figure 1: Illustration of I-beam bent in upright and side directions

Bending

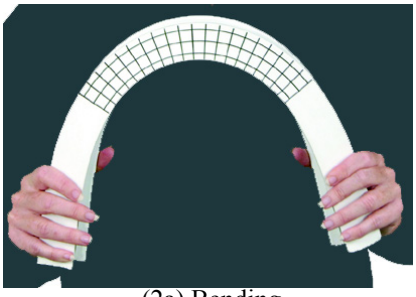
Hold the I-beam in your hands and bend it in the "upright" and "side" directions as illustrated. Hold the I-beam with the top grid facing the students and demonstrate the distortion as the beam is bent (see Figure 2a). In which direction is it easier to bend? For the same effort, in which direction does it bend more?

Buckling

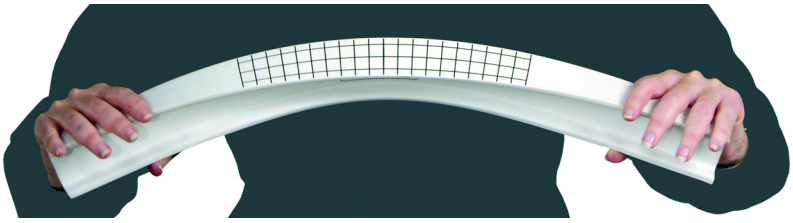
Bend the I-beam in the upright position and continue to bend it until the beam buckles (see Figure 2b). Another way to show this mode of failure is to stand the I-beam on its end and press down on the top end until the column buckles.

Torsion

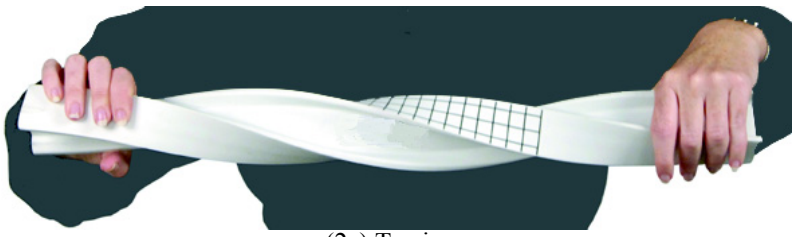
Twist the I-beam to demonstrate its lack of strength under torsion (see Figure 2c). .



(2a) Bending



(2b) Buckle



(2c) Torsion

Figure 2

Technical Support

For assistance with any PASCO product, contact PASCO at:

Address:	PASCO scientific 10101 Foothills Blvd. Roseville, CA 95747-7100
Phone:	916-786-3800 (worldwide) 800-772-8700 (U.S.)
Fax:	(916) 786-7565
Web:	www.pasco.com
Email:	support@pasco.com

Limited Warranty
For a description of the product warranty, see the PASCO catalog.

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